

Supplementary Materials

Incorporating Graphene Nanoplatelets and Carbon Nanotubes in Biobased Poly(ethylene 2,5-furandicarboxylate): Fillers' Effect on the Matrix's Structure and Lifetime

Dimitra Kourtidou ¹, Dimitrios Karfaridis ¹, Thomas Kehagias ¹, George Vourlias ¹,
Dimitrios N. Bikiaris ^{2,*} and Konstantinos Chrissafis ^{1,*}

¹ Laboratory of Advanced Materials and Devices, School of Physics, Aristotle University of Thessaloniki, Thessaloniki GR-541 24, Greece

² Laboratory of Polymer Chemistry and Technology, Department of Chemistry, Aristotle University of Thessaloniki; Thessaloniki GR-541 24, Greece

* Correspondence: dbic@chem.auth.gr (D.N.B.); hrisafis@physics.auth.gr (K.C.)

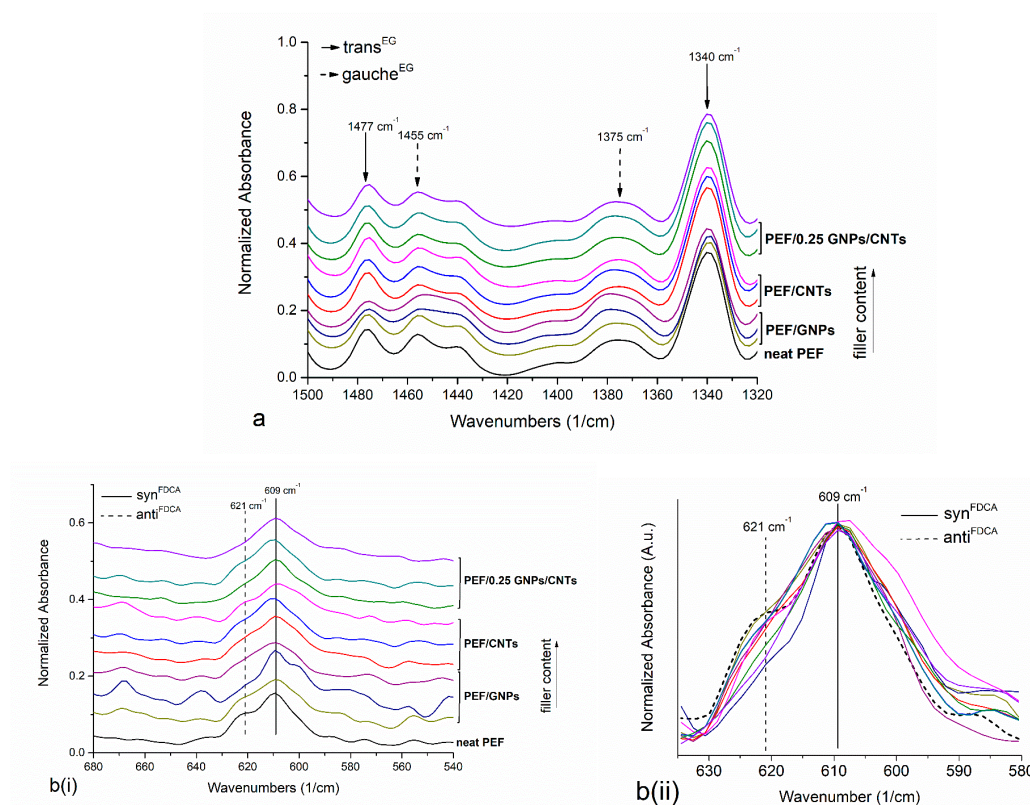


Figure S1. ATR spectra of all the prepared PEF materials (a) at the area of the EG absorbance bands and (b) the FDCA absorbance bands.

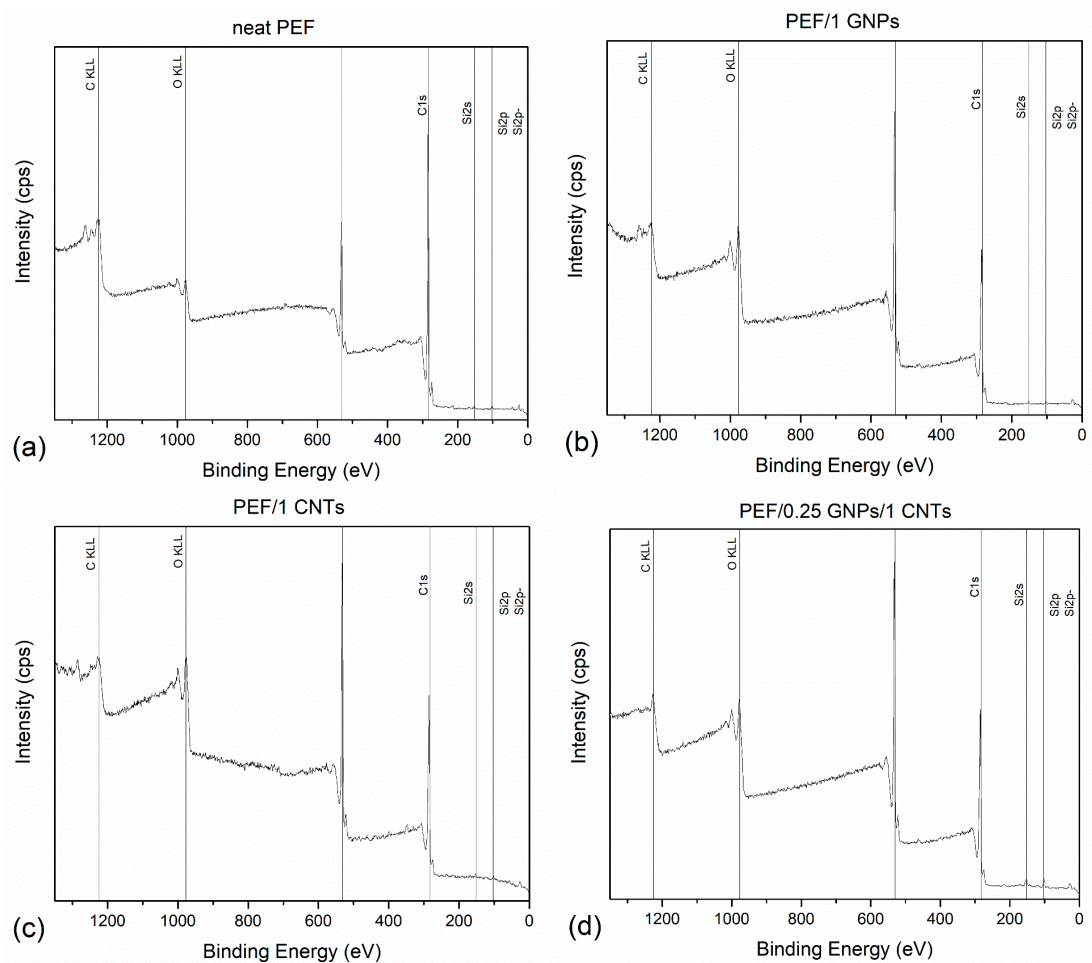


Figure S2. XPS wide scan spectra of (a) neat PEF, (b) PEF/ 1 GNPs, (c) PEF/1 CNTs, and (d) PEF/0.25 GNPs/1 CNTs.

Table S1. The atomic concentration of carbon and oxygen on the surface of neat PEF, PEF/ 1 GNPs, PEF/1 CNTs, and PEF/0.25 GNPs/1 CNTs

Sample	C atomic conc. (%)	O atomic conc. (%)
PEF neat	85.4	14.6
PEF/1 GNPs	66.1	33.9
PEF/1 CNTs	64.7	35.2
PEF/0.25 GNPs/1 CNTs	72.3	27.7

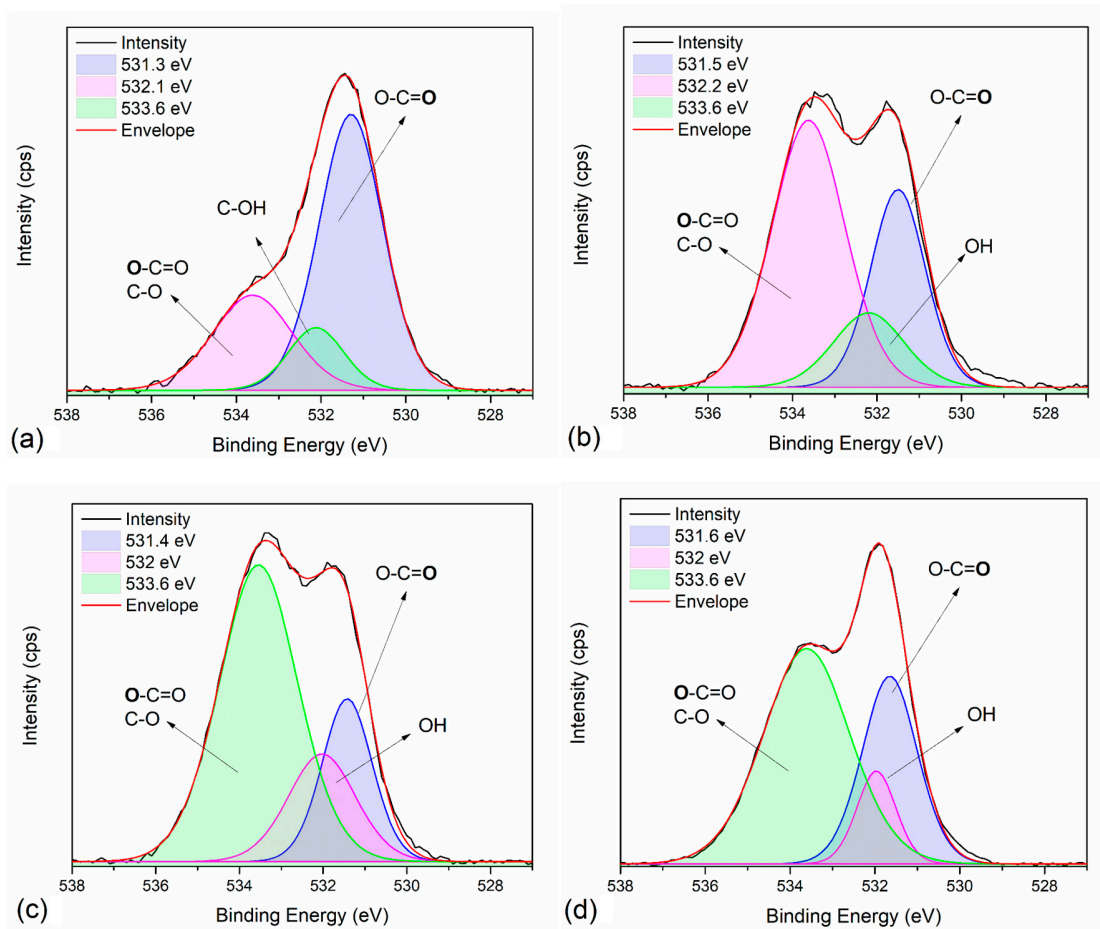


Figure S3. XPS spectra and peak deconvolution centered on the O1s orbital range of (a) neat PEF ($R^2=0.999$), (b) PEF/ 1 GNPs ($R^2=0.996$), (c) PEF/1 CNTs ($R^2=0.997$), and (d) PEF/0.25 GNPs/1 CNTs ($R^2=0.997$).